

Why You Need a Safety Management System Built by Professionals

In the fall of 2019, the accidental release of hydrogen sulfide (H₂S) caused the deaths of two people at the Aghorn Operating Waterflood Station in Odessa, Texas. Hydrogen sulfide, a toxic and colorless gas, is contained in the water that Aghorn pumps into oil reservoirs to assist in oil recovery, a technique known as waterflooding.

When a broken pump turned-on automatically, water was released and a worker died from H₂S exposure. Later, after the worker failed to return home, his spouse entered the pumphouse to look for him. She also died – and while the couple’s children waited for their parents in the car. A subsequent report by the U.S. Chemical Safety Board (CSB) identified a host of safety issues, including the lack of a safety management program.

[CSB released a video](#) that includes an animated version of events leading up to the incident. Before watching it, however, it’s worth considering what an oilfield incident involving hydrogen sulfide has to do with your own business. No matter what you make or do, it’s important to recognize what can happen if your organization lacks a safety management system that’s built by professionals.

The Problem

Good business leaders want to keep workers safe, and smart business leaders understand that there’s a cost to workplace injuries. All too often, however, leaders focus on lagging indicators instead of leading, or forward-looking, ones. Aghorn Inc., which operates the Odessa facility, didn’t have written lockout/tagout procedures for its pumps. A forward-looking safety program would have recognized the risk that an energized pump in a fault condition could release water containing H₂S.

The problem with focusing on lagging indicators instead of leading ones is three-fold. First, companies tend to look at what’s already happened instead of what could happen. Second, a reactive approach ignores the probability, severity, and root causes of more serious risks that haven’t become incidents. Third, people who don’t have a background in safety, or who have taken a few safety courses but lack professional certifications and deep domain experience, may look at a checklist instead of looking ahead.

“You wouldn’t build a bridge without a professional engineer, and you wouldn’t trust heart surgery to anyone but a trained and experienced doctor. Why should safety be any different?” – Jim Testo, EHS Risk Management

With a checklist approach to safety, companies simply regurgitate, or repeat back, published standards. In other words, they don’t perform a site-specific risk assessment. Workers aren’t trained properly, managers fail to build a safety culture, and business leaders believe they have a safety program when they really do not. As the CSB explained about the Odessa incident, “Aghorn had no additional formal company safety or operating policies and procedures.”

The Solution

Business leaders can't make the right decisions if they don't understand the risks. If Aghorn Inc. had taken a different approach to safety, a process hazard analysis (PHA) that assessed the probability and severity of an H₂S leak might have made the difference. Still, even this type of risk assessment probably would not have been enough. The company also lacked a safety culture, as the CSB report clearly demonstrates.

For example, the pumphouse operator wasn't wearing his personal H₂S detector because it wasn't required. He didn't perform lockout/tagout to de-energize the faulty pump before working on it either. The H₂S detection system in the pumphouse failed to trigger an alarm, and an unlocked gate let the worker's spouse enter the facility. There were also ventilation issues within the pumphouse.

"Choose trained professionals who can assess your risks. Then develop and implement a safety management system with all of the essential components, including technology." – Jim Testo, EHS Risk Management

In order to keep workers safe, businesses need to document, require, and enforce procedures as part of a site-specific program. Smart business leaders ask external safety experts to develop a plan that internal company personnel can then implement and enforce. The ideal solution also leverages today's technology so that managers and operators can access key information, such as safety procedures, on mobile devices.

The Benefits

EHS Risk Management develops safety programs that focus on leading indicators and that assesses the probability, severity, and root causes of risks. Our certified professionals have deep domain expertise and can document site-specific policies and procedures. Your company's managers can then implement your program for a significant cost-savings to your business. Our solution also uses today's technology so that you can build a safety culture with the right focus.

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The [EHS Risk Manager](#) reduces costs and supports your organization's performance. The [EHS Portal](#) provides a real-time process for managing and implementing your municipality's policies and procedures. To learn more, email Jim Testo at jimt@ehs-riskmanagement.com